REMARKS

The Applicant respectfully requests entry of the above amendment and reconsideration in view of the amendment and the following remarks.

Regarding the amended claims:

In claim 1, line 30, changed "respective" to --unique-- in order to be consistent with "unique information word" in line 17.

In claim 2, lines 6-7 changed "a signal portion" to --the signal-- to correct a clerical error.

In claim 6, line 6 changed "a" to --the-- to correct a grammatical error.

In claim 10, line 5 added --detectable-- before "second properties" to be consistent.

In claim 12, line 6 changed "a" to --the-- to correct a grammatical error.

In claim 13, line 23 changed "respective" to --unique-- and line 28 changed "a" to --the-- to correct a grammatical error.

In claim 14, line 5 added --detectable-- before "second properties" to be consistent.

In claim 15, line 5 added --detectable-- before "second properties" to be consistent.

In claim 22, line 9 changed "divided" to --organizable-- to broaden the claim; and in line 18 after "delivered," add "all the code words that establish the same state belonging to the same group, some code words belonging to more than one group, each state corresponding to one of the groups, groups of the first type corresponding to one state of the first type and groups of the second type corresponding to more than one state of the second type--.

In claim 23, line 9 changed "divided" to --organizable-- to broaden the claim.

In claim 24, line 7, change "have" to --having-- to correct a grammatical error.

In claim 34, line 16 after "established," add "all the code words that establish the same state belonging to the same group,

some code words belonging to more than one group, each state corresponding to one of the groups, groups of the first type corresponding to one state of the first type and groups of the second type corresponding to more than one state of the second type--.

In claim 49, line 1, change "45" to --48-- to correct an obvious typographical error.

In claim 56, line 2, changed "the first and thirteenth bit position past the end of the code word" to --12 bit positions apart-- in order to broaden the claim.

In claim 60, line 1, changed "22" to --26--; and in line 2, changed "the first and thirteenth bit position" to --12 bit positions apart-- in order to broaden the claim.

In claim 61, line 1, changed "22" to --26--; and in line 2, changed "the first and thirteenth bit position" to --12 bit positions apart-- in order to broaden the claim.

In claim 86, line 9 changed "divided" to --organizable-- to broaden the claim.

In claim 92, line 9 changed "divided" to --organizable-- to broaden the claim.

In claim 104, lines 13-14 changed "predetermined positions in a following signal portion" to --the same predetermined non-consecutive positions in a respective immediately following signal portion--. The term "Non-consecutive" was added to further differentiate the claim from the teachings of US4851837 to Baldwin, and the other terms were previously inherent limitations in view of the specification.

Claim 124 was canceled for being substantially the same as claim 125.

New claims 127-145 have been added above since the previous amendment. New claims 127-130 are based on claim 126. New claims 131-145 are based on Figures 6-8 and 10-11 described in the patent from column 11, line 26, through column 16, line 56. Examination will indicate that no new matter has been added.

Regarding double patenting:

Applicant believes that examination will indicate that there is no double patenting between the above amended claims of this re-issue application and the claims of re-examination serial number 09/006,637 for related patent US5696505 (previously cited by applicant in an information disclosure statement). For example, claim 20 above is substantially different than claim 53 in the re-examination; claims 22-40 above are substantially different than respective re-examination claims 1-19; claims 41-52 above are substantially different than respective re-examination claims 21-32; claims 54-77 above are substantially different than respective re-examination claims 33-56; claim 89 above substantially different than re-examination claim 28; claim 98 above is substantially different than re-examination claim 61; and claim 100 above is substantially different than re-examination claim 20.

Regarding the rejections of the claims, applicant respectfully traverses the assertions in the previous office actions.

In response to the rejection of claims 13-14, 17-56, 59-87, 92-106, 108-116 under 35 USC 103(a) for allegedly being unpatentable over "Alternative Modulation Codes For The Compact Disc" by French et. al. (IEEE Transactions on Consumer Electronics, Vol 4, No. 4, November 1988) in view of US patent 4,851,837 to Baldwin, the combination of citations does not identically disclose all the limitations of the claims and there is no suggestion or motivation for combining the citations.

More specifically, with regard to claim 13, Baldwin does not suggest "a group of the first type uniquely represents an information word ... a group of the second type in combination with the logical values of p bit cells at predetermined positions in a following information signal portion represent a unique information word ... information signal portions from the at least one group of the first type end in s bit cells having a same logical value, the information signal portions from the at least one group of the second type end in t bit cells having a same logical value, wherein s and t can assume different values and the values that s can

assume are all different than the values that t can assume, and in that t is greater than or equal to 2 and smaller than or equal to 5" as in the last 8 lines of claim 13. Neither Baldwin nor French disclose that code words that uniquely represent information words always end in a different number of bits of the same value than code words that represent different information words (and thus must be combined with p bits of the following code word. A hindsight analysis of figures 10a and 10b of Baldwin indicates that t is in the range of 2-6 and s is in the ranges from 0-2 and 7-9. For example, code words that uniquely identify information words 31, 34, 57 and 59 end in two zero bits and code words that are repeated such as the code word for 230 and 231 end in two zero bits.

With regard to claim 14, the claim is dependent on allowable claim 13, and thus, it is allowable for at least the same reasons as claim 13.

With regard to claim 17, the combination of citations does not suggest that "the value of s is one of: 0-1 and 6-9" as in claim 17. In Baldwin, s is one of 0-2 and 7-9.

With regard to claim 18, the claim is dependent on allowable claim 13, and thus, it is allowable for at least the same reasons as claim 13.

With regard to claim 19, the combination of citations does not suggest that "k is equal to 10" as in claim 19. In Baldwin, k is equal to 11 within code words and is equal to 14 across code word boundaries.

With regard to claim 20, the combination of citations does not disclose "one group of the first type substantially comprises only information signal portions having logical values selected from ..." as in claim 20. The group of the first type in Baldwin uses code words that are not listed in claim 20.

With regard to claim 21, the combination of citations does not disclose "one group of the second type substantially comprises only information signal portions having logical values selected from ..." as in claim 21. The only group of the second type in Baldwin uses code words that are not listed in claim 21.

With regard to claim 22, the combination of citations does not suggest the combination of a pair of code words for the same information word in a set as in Baldwin with coding schemes having more than two code word sets as in French. That is the combination of citations does not suggest "the code words are organizable into at least one group of code words of a first type and at least one group of code words of a second type, where ... the delivery of each of the code words belonging to a group of the second type establishes a second type of coding state determined not only by the group to which that code word belongs but also by information content in the information word itself for which that code word is delivered" in combination with "at least one of the sets of code words for each of at least a number of information words comprise at least a pair of code words" as in claim 22.

With regard to claim 23 the combination of citations does not suggest that "different sets associated with the coding states of the second type are mutually distinguishable on the basis of the logical values of bits at p predetermined non-consecutive bit positions in the code word" as in claim 23. In Baldwin the distinguishing bits are the first and second bits which are consecutive.

With regard to claims 24-25, the claim is dependent on allowable claim 22, and is thus allowable for at least the same reasons as claim 22 as described above.

With regard to claim 26 the combination of citations does not suggest that "code words contained in different sets associated with the coding states of the second type are mutually distinguishable on the basis of the logical values of bits at p predetermined non-consecutive bit positions in the code words" as in claim 26. In Baldwin the distinguishing bits are the first and second bits which are consecutive. Also, claim 26 is dependent on allowable claim 22, and is thus allowable for at least the same reasons as claim 22 as described above.

With regard to claim 27, the combination of citations does not suggest "the sync word being used depends on the coding state prior to its insertion" as in claim 27. Also the combination of citations

does not suggest the inserted sync word "establishes a predetermined coding state for the conversion of the next information word to be converted after its insertion" as in claim 27. Also, the combination of citations does not suggest "the sync words being mutually distinguishable on the basis of the logical values of bits at predetermined bit positions in a manner corresponding to the manner in which the code word sets corresponding to coding states of the second type are mutually distinguishable from each other" as in claim 27. Also, claim 27 is dependent on allowable claim 26, and is thus allowable for at least the same reasons as claim 26 as described above.

With regard to claim 28, the claim is dependent on allowable claim 26, and is thus allowable for at least the same reasons as claim 26 as described above.

With regard to claim 29, the combination of citations does not suggest that "k is equal to 10" as in claim 29. In Baldwin, k is 11 within code words and k is equal to 14 across code word boundaries. Also, claim 29 is dependent on allowable claim 22, and is thus allowable for at least the same reasons as claim 22 as described above.

With regard to claim 30, the claim is dependent on allowable claim 29, and is thus allowable for at least the same reasons as claim 29 as described above.

With regard to claim 31, the combination of citations does not suggest "a first group of the first type of code words is formed by code words ending in a bits having the first logical value, where a is equal to 0 or 1" as in claim 31. In Baldwin there are two groups and the code words of one group ends in 0-2 or 7-9 bits of the same value, and the code words of the other group end in 2-6 bits of the same value. Also, claim 31 is dependent on allowable claim 28, and is thus allowable for at least the same reasons as claim 28 as described above.

With regard to claim 32, the claim is dependent on allowable claim 22, and is thus allowable for at least the same reasons as claim 22 as described above.

With regard to claim 33, the combination of citations does not

suggest that "code words contained in different sets associated with the coding states of the second type are mutually distinguishable on the basis of the logical values of bits at p predetermined non-consecutive bit positions in the code words" as in claim 33. In Baldwin, the distinguishing bit positions are the first and second bit positions which are consecutive.

With regard to claim 34, the combination of citations does not suggest the combination of a pair of code words for the same information word in a set as in Baldwin with coding schemes having more than two code word sets as in French. That is the combination of citations does not suggest "the code words are organizable into at least one group of code words of a first type and at least one group of code words of a second type, where ... the delivery of each of the code words belonging to a group of the second type establishes a second type of coding state determined not only by the group to which that code word belongs but also by information content in the information word itself for which that code word is delivered" in combination with "at least one of the sets of code words for each of at least a number of information words comprise at least a pair of code words" as in claim 34.

With regard to claims 35-36, the claim is dependent on allowable claim 34, and is thus allowable for at least the same reasons as claim 34 as described above.

With regard to claim 37 the combination of citations does not suggest that "code words contained in different sets associated with the coding states of the second type are mutually distinguishable on the basis of the logical values of bits at p predetermined non-consecutive bit positions in the code words" as in claim 37. In Baldwin the distinguishing bits are the first and second bits which are consecutive. Also, claim 37 is dependent on allowable claim 34, and is thus allowable for at least the same reasons as claim 34 as described above.

With regard to claim 38, the combination of citations does not suggest "the sync word being used depends on the coding state prior to its insertion" as in claim 38. Also the combination of citations does not suggest the inserted sync word "establishes a

predetermined coding state for the conversion of the next information word to be converted after its insertion" as in claim 38. Also, the combination of citations does not suggest "the sync words being mutually distinguishable on the basis of the logical values of bits at predetermined bit positions in a manner corresponding to the manner in which the code word sets corresponding to coding states of the second type are mutually distinguishable from each other" as in claim 38. Also, claim 38 is dependent on allowable claim 37, and is thus allowable for at least the same reasons as claim 37 as described above.

With regard to claim 39, the combination of citations does not suggest "effecting a predetermined coding state once a sync word has been inserted" as in claim 39. Also, claim 39 is dependent on allowable claim 38, and is thus allowable for at least the same reasons as claim 38 as described above.

With regard to claim 40, the claim is dependent on allowable claim 37, and is thus allowable for at least the same reasons as claim 37 as described above.

With regard to claim 41, the combination of citations does not suggest that "k is equal to 10" as in claim 41. In Baldwin, k is 11 within code words and k is equal to 14 across code word boundaries. Also, claim 41 is dependent on allowable claim 34, and is thus allowable for at least the same reasons as claim 34 as described above.

With regard to claim 42, the claim is dependent on allowable claim 41, and is thus allowable for at least the same reasons as claim 41 as described above.

With regard to claim 43, the combination of citations does not suggest "a first group of the first type of code words is formed by code words ending in a bits having the first logical value, where a is equal to 0 or 1" as in claim 43. In Baldwin there are two groups and the code words of one group ends in 0-2 or 7-9 bits of the same value, and the code words of the other group end in 2-6 bits of the same value. Also, claim 43 is dependent on allowable claim 41, and is thus allowable for at least the same reasons as claim 41 as described above.

With regard to claim 44, the claim is dependent on allowable claim 34, and is thus allowable for at least the same reasons as claim 34 as described above.

With regard to claim 45, the combination of citations does not suggest that "each information signal portion belonging to a second one of the groups of information signal portions uniquely establishing an information word depending upon the logical value of p predetermined non-consecutive bit cells in an information signal portion adjacent to the each information signal portion belonging to the second group" as in claim 45.

With regard to claim 46, the claim is dependent on allowable claim 45, and is thus allowable for at least the same reasons as claim 45 as described above.

With regard to claim 47, the combination of citations does not suggest that "k is equal to 10" as in claim 47. In Baldwin, k is 11 within code words, and k is equal to 14 across code word boundaries. Also, claim 47 is dependent on allowable claim 46, and is thus allowable for at least the same reasons as claim 46 as described above.

With regard to claim 48, the combination of citations does not suggest that "the adjacent signal portion containing the at least one bit cell are in some cases an adjacent information signal portion and in other case are an adjacent sync signal portion" as in claim 48. In Baldwin adjacent sync signal portions do not determine the information word represented by a code word.

With regard to claim 49, the claim is dependent on allowable claim 48, and is thus allowable for at least the same reasons as claim 48 as described above.

With regard to claim 50, the claim is dependent on allowable claim 49, and is thus allowable for at least the same reasons as claim 49 as described above.

With regard to claim 51, the combination of citations does not suggest "the information signal portions from the first group end in s bit cells having a same logical value, and the information signal portions from the second group end in t bit cells having the same logical value, wherein s and t can each assume a number of

different values and the values that s can assume are all different than the values that t can assume" as in claim 51. The first and second groups are defined in claim 45 as "each information signal portion belonging to a first one of the groups of information signal portions uniquely establishing an information word irrespective of information signal portions adjacent to the each information signal portion belonging to the first group, and each information signal portion belonging to a second one of the groups of information signal portions uniquely establishing an information word depending upon the logical value of p predetermined non-consecutive bit cells in an information signal portion adjacent to the each information signal portion belonging to the second group". Neither Baldwin nor French disclose that code words that uniquely represent information words always end in a different number of bits of the same value than code words that represent different information words (and thus must be combined with p bits of the following code word. A hindsight analysis of figures 10a and 10b of Baldwin indicates that t is in the range of 2-6 and s is in the ranges from 0-2 and 7-9. For example, code words that uniquely identify information words 31, 34, 57 and 59 end in two zero bits and code words that are repeated such as the code word for 230 and 231 end in two zero bits.

With regard to claim 52, the citations in combination do not suggest "t is greater than or equal to 2, and smaller than or equal to 5" as in claim 52. A hindsight analysis of figures 10a and 10b of Baldwin indicates that t is in the range of 2-6.

With regard to claim 53, the claim is dependent on allowable claim 45, and is thus allowable for at least the same reasons as claim 45 as described above.

With regard to claim 54, the combination of citations does not suggest to "convert a code word to an information word also depending on the logical values of bits located at p predetermined non-consecutive positions in a portion of the bit string adjacent to the code word" as in claim 54. In Baldwin figure 10a and 10b, the distinguishing bits are the first and second bits which are consecutive.

With regard to claim 55, the claim is dependent on allowable claim 54, and is thus allowable for at least the same reasons as claim 54 as described above.

With regard to claim 56, the combination of citations does not suggest that the "p predetermined bit positions are 12 bit positions apart" as in claim 56.

With regard to claim 59, the combination of citations does not suggest to "convert a code word to an information word also depending on the logical values of bits located at p predetermined non-consecutive positions in a portion of the bit string adjacent to the code word" as in claim 59. In Baldwin figure 10a and 10b, the distinguishing bits are the first and second bits which are consecutive.

With regard to claim 60, the combination of citations does not suggest that the p bit positions are "12 bit positions apart" as in claim 60.

With regard to claim 61, the combination of citations does not suggest that the p bit positions are "12 bit positions apart" as in claim 60.

With regard to claim 62, the combination of citations does not suggest "the at least a number of information words constitutes a lexicographically consecutive range" as in claim 62. In Baldwin in each group of information words, the information words which are assigned two code words are not in a lexicographically consecutive range.

With regard to claims 59, the combination of citations does not suggest "the converting means convert a code word to an information word also depending on the logical values of bits located at p predetermined non-consecutive positions in a portion of the bit string adjacent to the code word" as in claims 54 and 59.

With regard to claims 86 and 87, the combination of citations does not suggest "a unique information word is established by the information signal portions of the second group combined with an adjacent signal portion being in some cases an adjacent sync signal portion and in other cases an adjacent information signal portion"

as in claims 86 and 87, 89, 90, and 91. In Baldwin adjacent sync signal portions do not determine the information word represented by an information signal portion.

With regard to claims 92, 93, 95 and 97 "the information signal portions from the at least one group of the first type end in s bit cells having a same logical value, the information signal portions from the at least one group of the second type end in t bit cells having a same logical value, in which s and t can assume different values and the values that s can assume are different than all the values that t can assume, and t is greater than or equal to 2 and smaller than or equal to 5" as in claims 92, 93, 95 and 97.

With regard to claims 96, 102 and 103 "the converting means convert a code word to an information word also depending on another portion of the bit stream adjacent to the code word being converted if the information signal portions end in t bit cells having a same logical value, and not if the information signal portions end in s bit cells having a same logical value, where s and t can assume different values, the values that s can assume are all different than the values that t can assume, and t is greater than or equal to 2 and smaller than or equal to 5" as in claims 96 102 and 103.

With regard to claim 98, the combination of citations does not suggest "a first type of coding state for each delivered code word belonging to a group of a first type, which state is determined only by the group to which the delivered code word belongs" as in claim 98. Baldwin does not disclose a state that is determined only by the group of the first type to which a delivered code word belongs.

With regard to claim 100, the combination of citations does not suggest "each information signal portion belonging to a group of the second type in combination with the logical values of p bit cells at predetermined non-consecutive positions in a following signal portion represent a unique information word" as in claim 100.

With regard to claim 101, the combination of citations does

not suggest "each information signal portion belonging to a second one of the groups of information signal portions uniquely establishing an information word depending upon the logical values of p bit cells at predetermined non-consecutive positions in a signal portion adjacent to the each information signal portion belonging to the second group" as in claim 101.

With regard to claims 104, 105 and 106, the combination of citations does not suggest "each information signal portion belonging to a group of the second type in combination with the logical values of p bit cells at predetermined positions in a following signal portion represent a unique information word" as in claims 104, 105 and 106.

All the other rejected claims are dependent on one of the above distinguished claims and are allowable at least for the same reasons.

The claims are definite and distinguished from the citations and Applicant respectfully requests the allowance of all claims.

The Commissioner is hereby authorized to credit any overpayment or charge any fee (except the issue fee) including fees for any required extension of time, to Account No. 14-1270.

Respectfully submitted,

By Michael E Belk

Michael E. Belk, Reg. 33,357
Patent Attorney
(914) 333-9643

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